



*2011 Annual Report*

***Northwestern Interior Forest Landscape  
Conservation Cooperation***



# Northwestern Interior Forest LCC

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### Introduction

The Northwestern Interior Forest Landscape Conservation Cooperative (NWIF LCC) consists of more than 330 million acres of boreal forests, alpine habitat, wetlands and rivers, but also includes the major metropolitan hubs and transportation infrastructure of the region, including the two largest cities in Alaska and the largest city in the Yukon Territories. The geographic region of the NWIF LCC includes the boreal and boreal transition zones of Alaska, Yukon Territories, northern British Columbia and part of Northwest Territories (Figure 1). As a true international collaboration, the NWIF LCC is a growing partnership among U.S. and Canadian agencies, organizations, Tribes/First nations, and local communities.

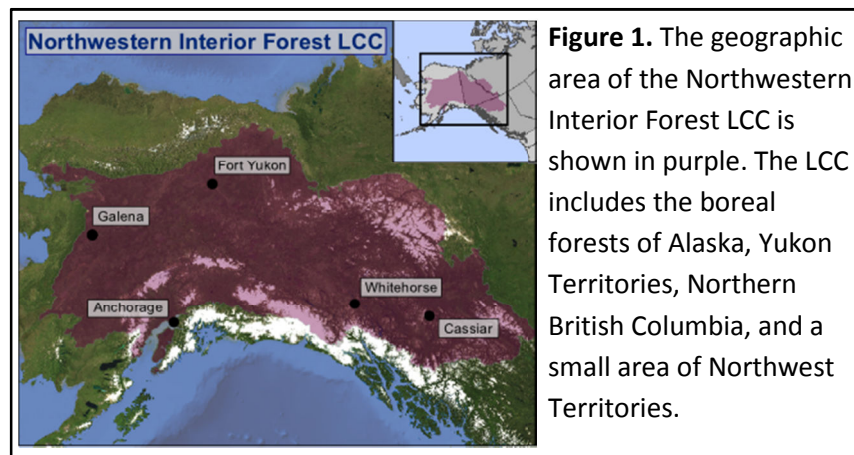
The vast area included within the NWIF LCC is underlain with discontinuous permafrost, which contains enormous deposits of immobilized organic carbon, and is a major determinant on vegetation type, hydrologic regimes, and species distributions. Permafrost is clearly sensitive to climate warming and is also impacted by changing fire regimes throughout the region. There is a strong interplay in the landscape-scale dynamics between wildfire distribution, frequency and intensity, the depth of soil active layers and change in permafrost distribution. This interplay has ecosystem-scale effects such as wetland shrinking and formation, sedimentation and soil nutrient leaching, and drastic effects on vegetation type (to the level of shifting biomes) all of which will likely have significant effects on wildlife, subsistence resources, and the carbon cycle.

Over the last 100 years, recorded air temperature within the NWIF LCC region has warmed 2.52 °F, twice the global average. The growing season length has increased by 50% and although precipitation is expected to moderately increase, an increase in evapotranspiration, caused by higher temperatures and longer growing seasons, is expected to result in an overall drying trend in the region. These factors, combined with melting permafrost, are expected to have drastic impacts on the boreal ecosystems within NWIF LCC. Predicted impacts include a transition from conifer-dominated forests to deciduous-dominated forests or non-forested ecosystems such as grass/shrublands. This is coupled with an increase in the number and extent of invasive species and insect pest outbreaks associated with a warming climate. Land and resource managers from various agencies and organizations within the NWIF LCC struggle with how to incorporate climate change-related projections into management strategies, primarily due to lack of information and high uncertainties associated with modeling and predictions.

Climate change and other landscape stressors have the potential to drastically reshape the region's biota, ecosystem services, and human infrastructure, including the TransAlaska pipeline. Advances in road construction and building technology have increased the safety margins of infrastructure within the region, however, landscape-scale changes in parameters

such as permafrost and wildfire are projected to result in billions of dollars of damage to infrastructure in the next century.

The need for large-scale collaborations and directed, applied science to inform management decisions within the NWIF LCC region has never been greater. Land and resource managers are in need of decision support tools, integrated monitoring, and the latest results from climate and ecosystem models. Northwestern Interior Forest LCC, although early in its implementation, is a vehicle to provide the cross-agency communication and information exchange that is necessary for conservation and sustainable management in the context of an uncertain future.



### Formation of the NWIF LCC

The Northwestern Interior Forest LCC is in its formational stages, in that it is among the LCCs to be initiated in 2011. Although a young LCC, there are high levels of excitement among partner agencies and organizations, partly due to the successes of previously established LCCs, such as Arctic LCC and Western Alaska LCC.

#### *Staffing*

Staffing of the NWIF LCC began in June 2011 when Cynthia Jacobson began serving as the interim Coordinator and Amanda Robertson became the interim Science Coordinator. Cynthia is the Science Applications ARD in Region 7 and is thus extremely familiar with the LCC process (the Alaska Region geographic area includes 5 LCCs). Amanda Robertson is a landscape-scale forest ecologist and geneticist with expertise in forest-climate dynamics. Late in 2012, John DeLapp assumed the interim Coordinator position, on detail from his Alaska Region conservation partnerships coordinator duties. A permanent coordinator will be hired in early 2012. With core staff in place, an Interim Steering Committee was formed.

#### *Interim Steering Committee.*

The Northwestern Interior Forest LCC Interim Steering Committee had its first meeting on October 14, 2011 in Fairbanks, Alaska. During that meeting, it was set as a first priority to engage Canadian partners and a Canadian Outreach Subcommittee was formed. An initial

Tribal/First Nations Involvement Strategy was also drafted. At the subsequent meetings, Alaska Native liaisons were present to provide insight and advice for the strategy which is slated to be implemented early in 2012.

On December 12, 2011 a second Interim Steering Committee meeting was held in Anchorage, Alaska. This meeting began the governance process for the NWIF LCC. The Interim Steering Committee drafted shared goals and visions statements for review in January 2012 and initiated charter development. Also discussed at this meeting was a timeline for initiating informal or formal information needs assessments to identify management needs as well as science information gaps. A follow-up meeting in February 2012 resulted in formalization of this timeline as well as progress on a charter and articulating shared goals.

As the meetings progress, participation on the Interim Steering Committee is growing, particularly from Canadian partners. Table 1 lists the agencies/organizations currently represented on the Interim Steering Committee.

Table 1. Current list of agencies/organizations represented on NWIF LCC Interim Steering Committee

Agency/Organization	Nationality	Federal	State/Provincial	NGO/other
Alaska Department of Fish & Game	US		X	
British Columbia Ministry of Forests, Lands & Natural Resource Operations	CA		X	
Bureau of Land Management	US	X		
Canadian Forest Service	CA	X		
Council of Athabaskan Tribal Governments	US			X
National Park Service	US	X		
Natural Resources Conservation Service	US	X		
Northern Environmental Conservation Association	CA			X
Tanana Chiefs Conference	US			X
United States Army	US	X		
United States Fish & Wildlife Service	US	X		
United States Forest Service	US	X		
United States Geological Survey	US	X		
Yukon College	CA			X
Yukon Research Center	CA			X
Yukon Territories Climate Change Secretariat	CA		X	
Yukon Territories Fish & Wildlife Service	CA		X	
Wildlife Conservation Society Canada	CA			X



## International Partnership

LCCs were established to transcend political boundaries; to be a true partnership, NWIF LCC is committed to working across the international border to coordinate applied science to inform shared land and resource management needs. Nearly half of the land area (47.5%) in the NWIF LCC is in Canada (Figure 1) and the Interim Steering Committee feels strongly that Interim Steering Committee composition and participation should reflect this. Substantial progress has been made in contacting potential Canadian partners. Several Canadian agencies and organizations have shown interest and enthusiasm in participating in NWIF LCC, as evidenced in Table 1.

The Canadian Outreach Subcommittee successfully contacted several potential partners and made three specific recommendations to the Interim Steering Committee:

### *Recommendation 1.*

The Canadian Outreach Subcommittee recommends to the Interim Steering Committee that an invitation to participate in the Interim Steering Committee be provided to agency appointed representatives in a timely manner. Certain agencies have requested a formal letter of invitation, whereas other agencies need only an informal invitation.

### *Recommendation 2.*

The Canadian Outreach Subcommittee recommends that the Interim Steering Committee hold a meeting in Whitehorse, Yukon Territory in Fiscal Year 2012. The Subcommittee strongly urges the Interim Steering Committee to have Canadian partners involved in the dialogue leading to articulation of shared goals, vision and mission statements, and a charter for the NWIF LCC.

### *Recommendation 3.*

There may likely be other agencies/organizations that would like to participate in the Northwestern Interior Forest LCC in the future. Effort beyond the actions of this Canadian Outreach Subcommittee should be made on a continual basis to engage new partners in both Canada and the U.S.

Planning for a Steering Committee retreat in Whitehorse, Yukon Territories is currently underway. The goal of this meeting is to identify management needs (informed by prior and ongoing information needs assessments) and establish initial NWIF LCC priorities for research, monitoring and modeling needs.

## Conclusions

The Northwestern Interior Forest LCC was formed in the second half of 2011. During that time, a comprehensive team effort from NWIF Interim Core Staff and Region 7 Science Applications staff was central to forming the base of an international, inter-agency partnership. The greater partnership community continues to grow, as does interest in the NWIF LCC. The need for and interest in conservation planning at the landscape scale is great in this region; increasing participation in the NWIF LCC reflects this need.

In 2012 the NWIF LCC will embark on an effort to strategically identify management and science information needs and to prioritize research, monitoring and modeling efforts within the region. A management needs framing workshop will be scheduled in 2012, which will lay the foundation for a larger science workshop to follow in early 2013. Charter development is underway and the vision and scope of the NWIF LCC are coalescing.